

Work Order ID 143570

March 16, 2016 10:05:52 AM

143570

Page 1

Item ID: D117-762-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 3/16/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/18/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: SU Date: 160316 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D3582	C
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100	Document Control	0.00
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DOCUMENT CONTROL

100

DC	Memo	0.00
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Doc. Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D117-762-041 CHG002

DAS
27
4-00

MAR 21 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER :							
Misidentified ☐	☐ Past Due								

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Page 2

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Setup Start

NS1

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NS2

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Start Date: 3/16/2016 Start Qty: 1.00

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Required Date: 3/18/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

0.00

130

Skidtubes

Skidtubes

Memo

0.02

1-Cut Aft end using DT8185

2-Deburr ends

3-Drill Aft Cap holes using DT8678 *** OPEN AFT CAP HOLE TO .187" ***

4-Locate DT 8973 from aft cap holes & Drill Ground wire hole on top of Tube.

5-Install 3/16 cleco in Ground wire hole ,then drill all X-Bolt holes using 3/16" drill.

6-Drill pilot holes for wearplates using DT8900

7-Open wearplate holes to Ø19/64" (0.297") as per Dwg D3582.

8- open ground wear holes to 0.391" as per section B-B

9-Open Aft Cap holes using .209" drill:

10-Drill pilot holes for section D-D and E-E. Holes must be laid out by hand. Mark out Center line and make sure that 6.65 and 5.906 measurements are respected. Double check before drilling, do not open holes to finish size.

16-3-16

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Description Work Order Deviation		Disposition			
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				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Item Name: Replacement Skidtube

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Start Date: 3/16/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/18/2016 Req'd Qty: 1.00

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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

0.00

140

Skidtubes

Skidtubes

Memo

0.01

1-Weld fwd cap D2964 per dwg D3582 and QSI 004

A/R AL ROD

Batch:

2-Grind flush

M131562/M133816 > BE16-03-16

1 0 BE16-03-16

150

QC10- Inspect visual per QSI004- ground welds

0.00

150

QC

Memo

0.00

Quality Control

① 16-03-16 DAS 9 9-89

160

QC5- Inspect part completeness to step on W/O

0.00

160

QC

Memo

0.00

Quality Control

① 16-03-16 DAS 9 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
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				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
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Page 4

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Item Name: Replacement Skidtube

Start Date: 3/16/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/18/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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170 Chemical Conversion Coat per QSI005 4.1

0.00

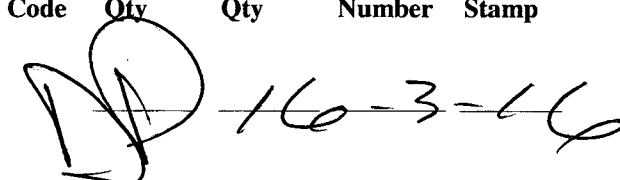
170

HandFinish

Memo

0.01

Hand Finishing



180 QC7-Inspect Chemical Conversion Coat

0.00

180

QC

Memo

0.00

Quality Control

DAS
18
8-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐							
Misidentified ☐	Past Due ☐								

Work Order ID 143570

March 16, 2016 10:05:52 AM

143570

Page 5

Item ID: D117-762-041

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 3/16/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/18/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Skidtubes	0.00							
190									
Skidtubes	Memo	0.02							
Skidtubes	1-Open X-Bolt holes to finish size as per Dwg D3582, all sections								
	2-Counter Sink X-BOLT holes as per Dwg D3582								
	3-Deburr and blow out chips from inside of tube, prep. tube for welding.								
	4-Bond web as per Dwg D3582 & QSI 015								
	A/R 241 Sike Flex Batch: <u>133862</u>								
	Exp Date: <u>16-12-10</u>								
	5-Weld x-bolt spacers(D2973) as per Dwg D3582 section B-B.								
	A/R AL ROD Batch: <u>M131262</u>								
	6-Grind welds flush								
200	QC10- Inspect visual per QSI004- ground welds	0.00							
200									
QC	Memo	0.00							
Quality Control									

Handwritten notes and signatures:
 16-3-16
 16-3-17
 16-03-17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Page 6

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Start Date: 3/16/2016 Start Qty: 1.00

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC5- Inspect part completeness to step on W/O	0.00							
210									
QC	Memo	0.00							① 16-03-17 PD.
Quality Control									
215	Pressure Wash per QSI005 4.3	0.00							
215									
HandFinish	Memo	0.01							1 ① 16-03-18. 03 34 00
Hand Finishing	Touch-up alodine as per QSI								
220	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
220									
Powdercoat	Memo	0.00							1 ① 16-03-18. 03 34 00
Powder Coating	START TIME 8:30 OVEN TEMPERATURE 320° FINISH TIME: 9:00								

DQA: _____ Date: _____



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Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
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Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : ☐						
Misidentified ☐	☐	Past Due ☐							

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Process Plan:

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Tooling:

Date:

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SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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230 QC3- Inspect Part Finish

0.00

230

QC

Memo

0.00

Quality Control

1 x of 16103/18

DAS
15
9-89

250

0.00

250

HandFinish

HandFinishing

Memo

0.03

Hand Finishing

1-Inspect for Foreign objects

2-Install Aft cap as per Dwg D3582, Detail "C"

A/R 241 Sika Flex Batch: M1133867

Exp Date: 16117

3-Install Wearplates as per Dwg D3582,

Note: Install Bolt and washer on Ground Wire inserts on top of tube see section D-D of dwg D3582

*****Do not install bolts where indicated on Dwg(Note #6)*****

A/R 241 Sika Flex Batch: M1133867

Exp Date: 16112

4- Wing Walk as per Dwg D3582 and QSI 005 4.4

M1134176

1 x of 16103/18

DQA: _____ Date: _____



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Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

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143570

Page 8

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 3/16/2016 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 3/18/2016 **Req'd Qty:** 1.00 ***1***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run	Start	*NR1*
	Stop	*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

260 QC5- Inspect part completeness to step on W/O

0.00

260

QC Memo

0.00

Quality Control

RB
16-03-21

270	0.00
-----	------

270

Packaging

0.00

Packaging

Memo

Packaging

Identify and pack for shipping as per RPA-DI-7762-041
Location : FG081

shipping as per PPP D1 75762-0.00
PPP 142288

~~DAS 27~~ ~~DAS 28~~ ~~MAR 21 2016~~
~~9-89~~ ~~9-89~~

280	QC21- Final Inspection - Work Order Release	0.00
-----	---	------

280

QC Memo

0.00

Quality Control

16/3/21 *[Signature]*
mf
~~16~~-3-21

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

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Page 1

Work Order ID: 143570

143570

Parent Item: D117-762-041

D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 3/16/2016

Required Date: 3/18/2016

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:A07.06.11New Issue EC
IPP Rev:B 08-02-22 change to revA as per dwg DD verF by:EC IPP REV:C
15.06.11 AS PER CHG002 DD VERF:JLM IPP REV:D 16.02.05
DWG REV.C (ecn16-514) DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3582-1-BENT *D3582-1-BFNT* Skidtube Assembly BK117		Manufactured	No			130	Each	1.0000	1				
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG002				1					
				140833				1					
D2964 *D2964* Cap		Manufactured	No			140	Each	4.0000	1				
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG001				4					
				127840				4					
D2971 *D2971* Cross Bolt Spacer		Manufactured	No			190	Each	18.0000	1				
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG001				18					
				108778				18					
D2965 *D2965* Cap		Manufactured	No			250	Each	80.0000	1				
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FP001				80					
				127852				80					

**

**

**

**

16-3-16

BE 16-03-16

BE 16-03-17

16/03/18

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Work Order ID: 143570

143570

Parent Item: D117-762-041

D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 3/16/2016

Required Date: 3/18/2016

Start Qty: 1.00

Required Qty: 1.00

D2973

Manufactured No

190

Each

16.0000

2

2

D2973

Cross Bolt Spacer

BE16-03-17

Location

Loc Qty

Loc Code

LG001

16

123939

16

D3584-1

Manufactured No

190

Each

1.0000

1

D3584-1

Web

16-3-16

Location

Loc Qty

Loc Code

LG002

1

137969

1

D3662-3

Manufactured No

190

Each

85.0000

1

1

D3662-3

Crossbolt Spacer

BE16-03-17

Location

Loc Qty

Loc Code

LG001

85

105725

29

71026

9

81606

47

D3662-1

Manufactured No

190

Each

8.0000

3

3

D3662-1

Crossbolt Spacer

BE16-03-17

Location

Loc Qty

Loc Code

LG001

8

137687

8

3

Picklist Print

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Work Order ID: 143570

143570

Parent Item: D117-762-041

D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 3/16/2016

Required Date: 3/18/2016

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130 AELS4-1032-130 Purchased No

Each 5,648.000 36

AI S4-1032-130

ll 16/03/18

Rivnut

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
CCK005	5000	
M134502	5000	
FP001	648	
M133077	648	

ALS4-428-165 Purchased No

Each 69.0000 2

AI S4-428-165

ll 16/03/18

INSERT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	10	
117769	10	
FP001	59	
117769	59	

D3508-3 Manufactured No

250 Each 4.0000 1

D3508-3

ll 16/03/18

Wearplate Fwd Center

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP002	4	
137673	4	

D3508-9 Manufactured No

250 Each 0.0000 1

D3508-9

B142291 (11) ll 16/03/18

Wearplate Fwd

Picklist Print

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Work Order ID: 143570

143570

Parent Item: D117-762-041

D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 3/16/2016

Required Date: 3/18/2016

Start Qty: 1.00

Required Qty: 1.00

D3558-3

Manufactured No

250

Each

5.0000

1

1

D3558-3

Gasket Center Fwd

all 16/03/16

Location

Loc Qty

Loc Code

FG

1

89649

1

FP001

4

126710

4

xl

D3558-9

Manufactured No

250

Each

9.0000

1

1

D3558-9

Gasket Fwd

all 16/03/16

Location

Loc Qty

Loc Code

FG

1

80340

1

FP001

8

138443

8

xl

D3558-11

Manufactured No

250

Each

9.0000

1

1

D3558-11

Gasket Aft Center

all 16/03/15

Location

Loc Qty

Loc Code

FG

1

80339

1

FP001

8

138403

8

xl

Picklist Print

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Work Order ID: 143570

143570

Parent Item: D117-762-041

D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 3/16/2016

Required Date: 3/18/2016

Start Qty: 1.00

Required Qty: 1.00

D3558-13	Manufactured	No	250	Each	22.0000	1	1	
D3558-13								**
Gasket Aft								lll 16/03/18

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	1	
82380	1	
FP001	21	
138669	21	

D3508-11	Manufactured	No	250	Each	8.0000	1	1	
D3508-11								**
Wearplate Aft Center								lll 16/03/18

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP002	8	
138044	8	

D3508-13	Manufactured	No	250	Each	4.0000	1	1	
D3508-13								**
Wearplate Aft								lll 16/03/18

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	4	
137968	4	

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Shop Packet Print

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Picklist Print

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Work Order ID: 143570

143570

Parent Item: D117-762-041

D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 3/16/2016

Required Date: 3/18/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0332J

Purchased

No

250

Each

971.0000

2

2

NAS1149D0332.J

del 16/03/18

Washer

Location

Loc Qty

Loc Code

CA

14

m129682

14

FP001

2

m129682

2

GA

118

m132677

118

ST260a

600

m133988

600

ST264

237

m133498

237

x2

AN3C4A

Purchased

No

250

Each

1,081.000

28

28

AN3C4A

del 16/03/18

Bolt

Location

Loc Qty

Loc Code

FG

20

122814

20

FP001

573

M133440

7

M134055

66

M134396

500

OVER002

200

M134502

200

ST350

288

M134134

40

M134396

248

x28

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Picklist Print

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Work Order ID: 143570

143570

Parent Item: D117-762-041

D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 3/16/2016

Required Date: 3/18/2016

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

250

Each

1,575.000

2

2

AN3C5A

Bolt

16/03/16

Location

Loc Qty

Loc Code

FG

5

122800

5

FP001

500

M133234

54

M133686

446

x2

OVER002

1000

M134502

1000

ST338a

70

M125388

35

M131803

35

NAS1149D0416J

Purchased

No

250

Each

4,302.000

2

2

NAS1149D0416.J

WASHER

16/03/16

Location

Loc Qty

Loc Code

GA

256

m131511

256

ST260a

1986

m131511

1986

x2

ST264

2060

m131511

2060

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Work Order ID: 143570

143570

Parent Item: D117-762-041

D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 3/16/2016

Required Date: 3/18/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

250

Each

4,205.000

28

28

NAS1149C0332R******ll 16/03/16

WASHER

LocationLoc QtyLoc Code

FP001

3034

m132262

4

m132930

1004

m134063

1810

m134073

216

GA

32

m133284

32

ST266

1139

m133284

639

m134474

500

x 28

AN4-4A

Purchased

No

250

Each

176.0000

2

2

AN4-4A******ll 16/03/16

BOLT

LocationLoc QtyLoc Code

FP001

6

m125709

6

ST325A

170

m129390

170

x 2

March 16, 2016 10:05:58 AM

Shop Packet Print

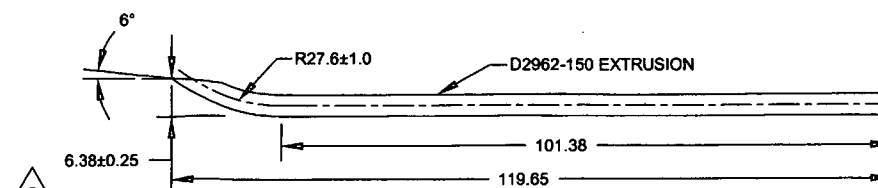
Page 8

PARTS LIST FOR D3582-041 SKIDTUBE ASSEMBLY

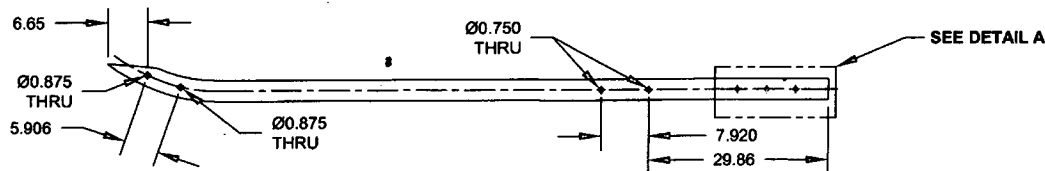
Qty	Part Number	Description
X	D3582-041	SKIDTUBE ASSEMBLY
1	D2962-150	EXTRUSION
1	D2964	CAP
1	D2965	CAP
1	D2971	CROSS BOLT SPACER
2	D2973	CROSS BOLT SPACER
1	D3508-3	WEARPLATE
1	D3508-9	WEARPLATE
1	D3508-11	WEARPLATE
1	D3508-13	WEARPLATE
1	D3558-3	GASKET
1	D3558-9	GASKET
1	D3558-11	GASKET
1	D3558-13	GASKET
1	D3584-1	WEB
3	D3662-1	CROSS BOLT SPACER
1	D3662-3	CROSS BOLT SPACER
36	AELS-1032-130	INSERT
2	ALS7-428-165	INSERT
28	AN3C4A	BOLT
2	AN3-5A	BOLT
2	AN4-4A	BOLT
28	NAS1149C0332R	WASHER (AN960C10L)
2	NAS1149D0332J	WASHER (AN960J10L)
2	NAS1149D0416J	WASHER (AN960J416L)

NOTES:

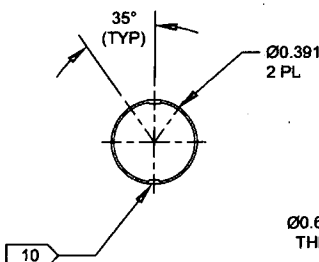
- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB. POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3. ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 17.5 lbs
- 8) WELDING: PER DART QSI 004.
- 9) INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- 10) USE DART DRILL TEMPLATE DT8900 TO LOCATE AND DRILL Ø0.297 HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION G-G (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/-291.
- 11) DO NOT INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS IN INDICATED LOCATIONS.



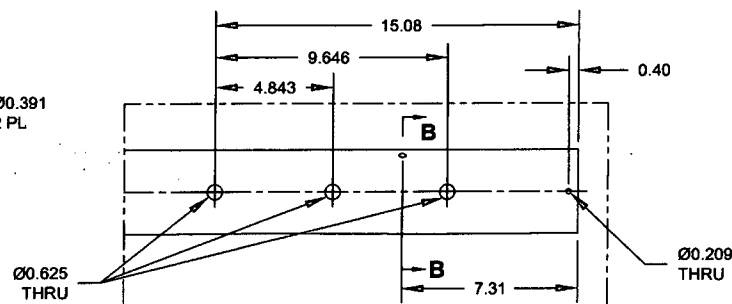
D3582-1 BENDING AND CUTTING DETAIL



D3582-1 DRILLING DETAIL



SECTION B-B
SCALE 5X



DETAIL A

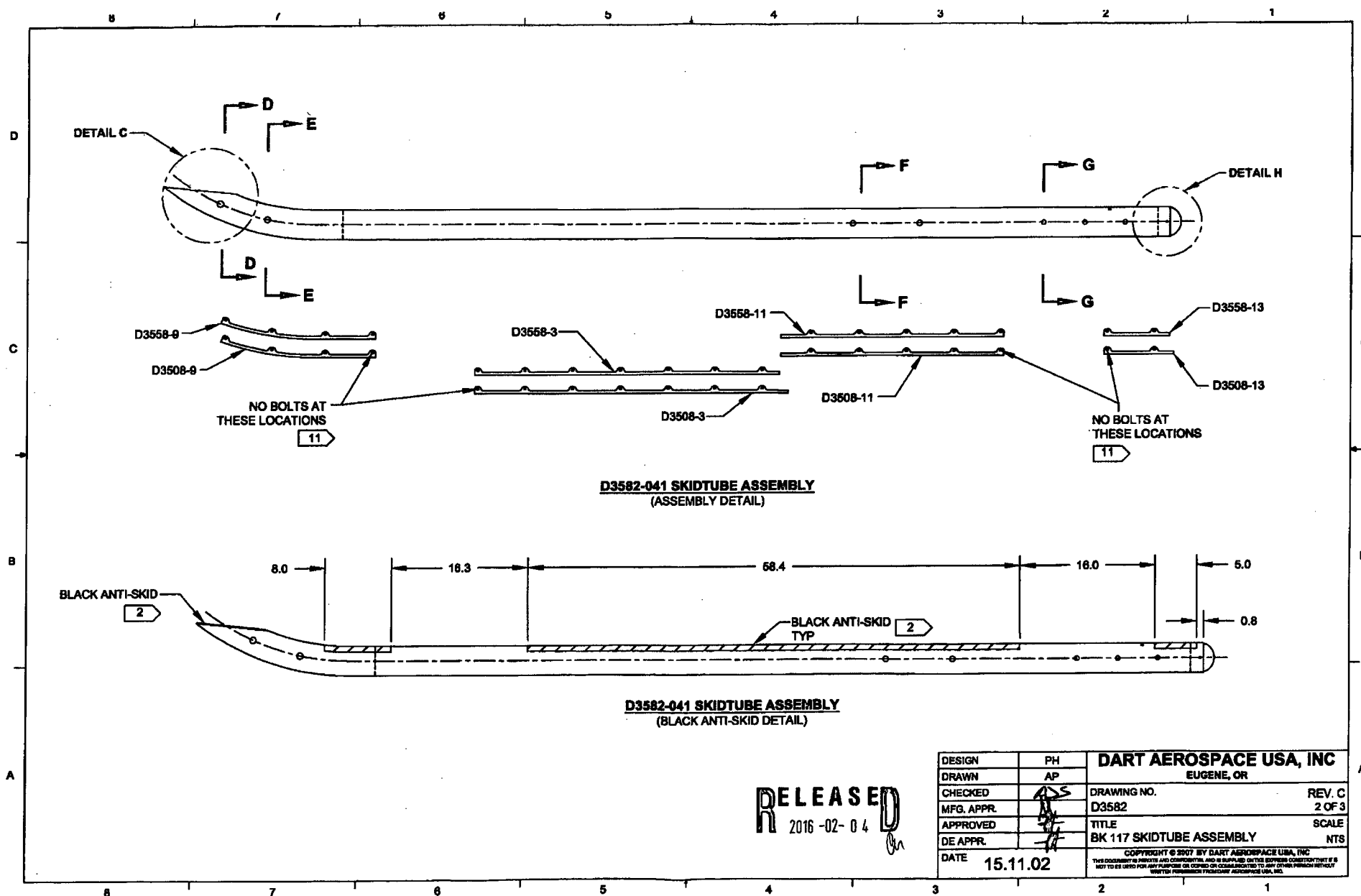
SCALE 5X

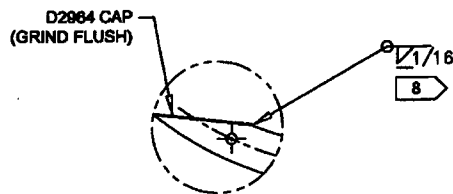
0160316

SA 143570

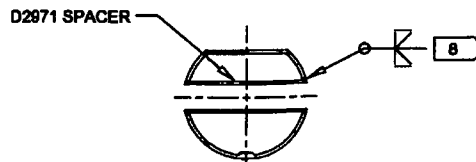
C	D3492 PLUG ASSEMBLIES REMOVED. REFORMAT NOTES SH1 1	AP	15.11.02
B	29.86 WAS 29.87 (ZN C2-1), INCORPORATED DEO D3582-A-1 (ZN D5-1), FORMAT TO CURRENT STD	RF	15.02.20
A	NEW ISSUE	PH	07.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC EUGENE, OR	
DRAWN	AP		
CHECKED	PH	DRAWING NO.	REV. C
MFG. APPR.	PH	D3582	1 OF 3
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	BK 117 SKIDTUBE ASSEMBLY	NTS
DATE	15.11.02	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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R 2016-02-04
ECN 16-514





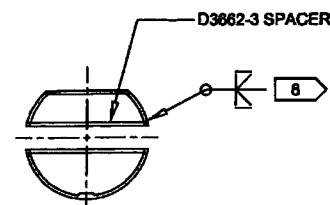
DETAIL C



SECTION D-D

SCALE 3X

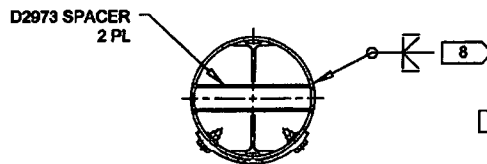
- SECTION D-D NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D2971 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.750 DRILL TO REMOVE SPILL OVER



SECTION E-E

SCALE 3X

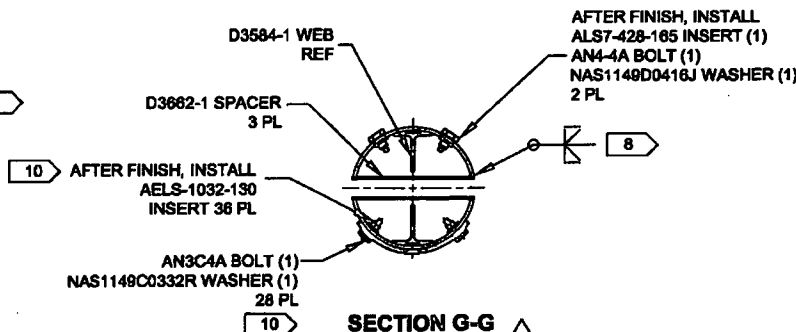
- SECTION E-E NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D3662-3 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.672 DRILL TO REMOVE SPILL OVER



SECTION F-F

SCALE 3X

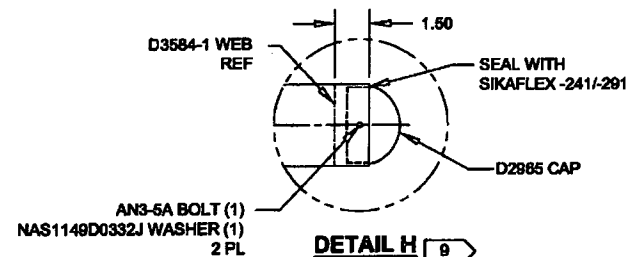
- SECTION F-F NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D2973 SPACER (2 PLACES)
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.625 DRILL TO REMOVE SPILL OVER



SECTION G-G

SCALE 3X

- SECTION G-G NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D3662-1 SPACER (3 PLACES)
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.615 DRILL TO REMOVE SPILL OVER



DETAIL H

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	RF	EUGENE, OR	
CHECKED	ASS	DRAWING NO.	REV. C
MFG. APPR.	BA	D3582	3 OF 3
APPROVED	PL	TITLE	SCALE
DE APPR.	PL	BK 117 SKIDTUBE ASSEMBLY	NTS
DATE	15.11.02	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS UNCLASSIFIED AND IS NOT TO BE USED FOR ANY PURPOSE OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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2016-02-04